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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,066	05/07/2001	Tongwei Liu	HP-10012392	2859

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EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2167	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,066	LIU ET AL.	
	Examiner	Art Unit	
	Miranda Le	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed on 12/07/2004.

2. Claims 1-22 are pending in this application. Claims 1, 8, 15, 22 are independent claims. In the Amendment, no claims have been amended, canceled, added. This action is made Final.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al. (US Patent No. 6,687,705 B2), in view of Rucker et al. (US Patent No. 6,195,657 B1).

As to claims 1, 8, 15, Agrawal teaches "receiving a record comprising a plurality of variables, wherein said record comprises information for a first portion of said variables" at col. 3, lines 52-59;

"using said information with a first classification tool adapted to classify said record" at col. 3, line 60 to col. 4, line 3, col. 4, lines 9-27, col. 4, lines 46-58;

Agrawal does not expressly teach "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information". However, Rucker teaches this limitation at col. 4, line 51 to col. 5, line 64.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Agrawal with the teachings of Rucker to include "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information" in order to provide a method for efficient categorization that can automatically recommend to a user objects and other users of a computer system based on categories and objects identified by each user.

As per claim 22, Agrawal teaches:

"ranking said plurality of variables according to their respective influence on said classifying" at col. 4, line 9 to col. 5, line 42;

"grouping said plurality of variables into subsets of variables using said ranking, wherein a classification tree is computed for each of said subsets" at col. 4, line 9 to col. 5, line 42;

"receiving a record comprising information for a portion of said variables" at col. 3, lines 52-59;

"using said information with a first classification tree adapted to classify said record, wherein said first classification tree is based on a substantially complete set of information for said plurality of variables" at col. 3, line 60 to col. 4, line 3, col. 4, lines 9-27, col. 4, lines 46-58;

Agrawal does not specifically teach "using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does not include said particular item of information that is missing". However, Rucker teaches this limitation at col. 4, line 51 to col. 5, line 64.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Agrawal with the teachings of Rucker to include "using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does not include said particular item of information that is missing" in order to provide a method for efficient categorization that can automatically recommend to a user objects and other users of a computer system based on categories and objects identified by each user.

As to claims 2, 9, 16, Agrawal teaches first classification tool is a first classification tree at col. 30, lines 60-67;

Rucker teaches second classification tool is second classification tree at col. 4, line 51 to col. 5, line 64, col. 7, line 47 to col. 8, line 9.

As to claims 3, 10, 17, Agrawal teaches "first classification tree is computed using a substantially complete set of information for said plurality of variables" at col. 4, lines 9-27, col. 4, lines 46-58;

Rucker teaches "wherein said second classification tree is computed using information for a subset of said plurality of variables, wherein said subset does not include said particular item of information that is missing" at col. 4, line 51 to col. 5, line 64.

As to claims 4, 11, 18, Agrawal teaches "ranking said plurality of variables according to their respective influence on said classifying" at col. 4, line 9 to col. 5, line 42;

"grouping said plurality of variables into subsets of variables using said ranking" at col. 4, line 9 to col. 5, line 42.

As to claims 5, 12, 19, Agrawal teaches "computing a classification tree for each one of said subsets" at col. 4, line 67 to col. 5, line 42.

As to claims 6, 13, 20, Rucker teaches "said record comprises customer information for a client, wherein content is selected for delivery to a customer according to said classifying of said record" at col. 4, line 51 to col. 5, line 64.

As to claims 7, 14, 21, Rucker teaches "substituting a default value for said particular item of information that is missing" at col. 4, line 51 to col. 5, line 64.

Response to Arguments

5. Applicant's arguments filed 12/07/2004 have been fully considered but they are not persuasive.

Applicant argues that:

(a) Rucker's reference does not teach/suggest claims 1, 8, 15, 22's feature of "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information".

(b) The cited references taken individually or in combination fail to teach or suggest these claim limitations.

The Examiner respectfully disagrees for the following reasons:

Per (a), Rucker teaches the second classification tool at col. 6, lines 32-47. It should be understood that "the missing of a particular item information" corresponds to "the recommendation system can now allow the user optionally selects one or more information objects from those recommend as being of particular interest" (col. 6, lines 33-35).

For example, as shown in Fig. 3, the information object A & B & C belong to Barney's "New Technologies" Category, and B & C belong to the Wilma's "Pagers" Category; so as when a user selects one information object A, a particular item information is missing is therefore either B or C; and the second classification tool to classify a record to "provide a new set of

recommendations of relevance to the selected information objects. In the present example, the system could construct a new target category linked to a single information object record" (col. 6, lines 38-42).

Furthermore, Rucker also discloses the second classification tool as "the system will create a new single target category especially for this run, which contains all of the supplied target object. In this way, the user is able to request recommendation relevant to a single information object, or a set of such objects, without first having to define a category" (col. 11, lines 59-64). It should be noted that the user could submit a single information object in a set of such objects (i.e. information is missing), the system then will predict the class (as described in the present invention summary) by creating a new single target category (col. 11, lines 54-64).

It is thus clearly shown that Rucker does teach claims 1, 8, 15, 22's feature of "using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information".

Per (b), Applicant's seem to be suggesting that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Agrawal is directed to a method and system for merging product information

in a first hierarchy having a first structure into a second hierarchy having a second structure different than the first structure. The method includes generating a classifier using text data and numerical data with product information in the second hierarchy, and using the classifier to associate product information on a product in the first hierarchy with nodes in the second hierarchy so that product information corresponds to a highest classification probability for that product (Agrawal, col. 1, line 66 to col. 2, line 11). Rucker is directed to a method and system for efficient categorization and recommendation of subjects, which are likely to be relevant to a user's grouping behavior as applied to information object (Abstract). Because the two references are concerned with the solution to the problem of classifying information records, there is an implicit motivation to combine these references. One ordinary skilled artisan would have been motivated to combine the reference since Rucker's teaching would enable users of Agrawal to accurately and predictably presents users with recommendations relevant to their current tasks and activities.

Accordingly, the claimed invention as represented in the claims does not represent a patentable over the art of record.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (571) 272-4107. The fax number to this Art Unit is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Miranda Le
March 04, 2005

GRETA ROBINSON
PRIMARY EXAMINER